

Amendments to the Claims

The following listing of claims will replace all prior versions, and listings, of claims in the application.

1. **(Currently Amended)** A method of patterning a surface, comprising:
providing a ~~non-planar~~ stamp having a stamping surface;
disposing a substrate proximate to the stamping surface; and
modulating the dimensions of the stamp to place the stamping surface in contact with the substrate to produce a pattern on the stamping surface of the substrate, wherein before the step of modulating, the stamp has a shape selected from the group consisting of cylindrical, spherical, elliptical, spheroidal, polygonal, balloon-like, and combinations thereof, and wherein said shape does not result from a surface texture or pattern.
2. **(Original)** The method of claim 1, further comprising modulating the dimensions of the stamp before the step of disposing the substrate.
3. **(Original)** The method of claim 1, further comprising, after the step of modulating the dimensions of the stamp to place the stamping surface in contact with the substrate, modulating the dimensions of the stamp to facilitate removal of the stamping surface from the substrate.
4. **(Original)** The method of claim 1, wherein the step of modulating the dimensions comprises a member of the group consisting of applying a mechanical stress, applying an electrical stimulus, removing a mechanical stress, removing an electrical stimulus, creating a partial vacuum, venting a vacuum, applying a magnetic field, removing a magnetic field, and any combination of the above.
5. **(Original)** The method of claim 4, wherein the mechanical stress comprises a positive hoop stress, a negative hoop stress, or a hydrostatic stress.
6. **(Original)** The method of claim 1, wherein the entirety of the stamp is modulated at the same time.

7. **(Original)** The method of claim 1, wherein at least one of the stamping surface and a surface of the substrate exhibits convexity in at least one dimension, and said convexity does not result from a surface texture or pattern.
8. **(Original)** The method of claim 1, further comprising exposing the substrate to electromagnetic radiation by transmitting said radiation through the stamp, wherein a portion of the stamp is opaque to said radiation.
9. **(Original)** The method of claim 1, further comprising disposing a transferable material on the stamping surface, wherein, when the stamp is in contact with the substrate, the transferable material is transferred to the substrate in a pattern corresponding to the pattern on the stamping surface.
10. **(Original)** The method of claim 9, wherein the transferable material comprises a member of the group consisting of a self-assembled monolayer forming molecule, a protein, an amino acid sequence, a synthetic peptide, a simple carbohydrate, a nucleic acid sequence, a lipid, a complex carbohydrate, an organic molecule, a polymer precursor, an inorganic molecule, an organometallic complex, a metal, a metallic species in a solvent, a metal colloid in a solvent, biological particles suspended in a carrier, and non-biological particles suspended in a carrier, an electroless plating precursor, and any combination of the above.
11. **(Original)** The method of claim 1, wherein the stamping surface comprises a pattern comprising at least one channel defined by raised portions on the surface of the stamp.
12. **(Original)** The method of claim 11, wherein a cross section of the stamp includes two raised portions, and wherein an angular distance between the two raised portions is between 0° and 180°.

13. **(Original)** The method of claim 11, wherein a lateral dimension of a channel or a raised portion is 100 nm or greater.
14. **(Original)** The method of claim 11, further comprising:
 - placing the channel in fluidic communication with a fluid source; and
 - causing a fluid to flow from the fluid source through a path bounded by the raised portions and the substrate.
15. **(Original)** The method of claim 14, wherein the fluid comprises a member of the group consisting of an etchant, a polymer precursor, a sol-gel fluid, a metal colloid in a solvent, cells suspended in a medium, a metallic species in a solvent, a metal, an electroplating solution, an electroless plating solution, a reactive gas, and any combination of the above.
16. **(Original)** The method of claim 14, wherein the fluid comprises a solution comprising a member of the group consisting of a self-assembled monolayer forming molecule, a protein, an amino acid sequence, a synthetic peptide, a simple carbohydrate, a nucleic acid sequence, a lipid, a complex carbohydrate, an organic molecule, a polymer precursor, an inorganic molecule, an electroless plating precursor, an organometallic complex, a metallic species, cells in a medium, and any combination of the above.
17. **(Original)** The method of claim 14, further comprising adjusting the temperature of the fluid while it is in the channel.
18. **(Original)** The method of claim 14, further comprising exposing the fluid in the channel to an electric current, a magnetic field, or electromagnetic radiation.
19. **(Original)** The method of claim 14, further comprising exposing the fluid to ultraviolet light.
20. **(Original)** The method of claim 14, further comprising adjusting the temperature of the substrate while the fluid is in the channel.

21. **(Original)** The method of claim 14, wherein a lateral dimension of a channel or raised portion is 200 nm or greater.
22. **(Original)** The method of claim 14, further comprising disposing a material on the substrate before the step of causing, wherein a component of the fluid interacts with the material when it is disposed in the channel.
23. **(Original)** The method of claim 14, wherein the fluid comprises a carrier and a material dissolved or suspended in the carrier, wherein the method further comprises allowing the carrier to dissipate and the material to harden.
24. **(Original)** The method of claim 11, further comprising wetting the stamping surface with a fluid, wherein, when the stamping surface is in contact with the area to be patterned, an interaction of the substrate with the fluid causes the substrate to develop a surface texture in a pattern conforming to the stamping surface of the stamp.
25. **(Original)** The method of claim 24, wherein the fluid dissolves or swells the substrate.
26. **(Original)** The method of claim 24, wherein the substrate comprises a polymer.
27. **(Original)** The method of claim 1, further comprising:
removing the stamp from the substrate; and
placing at least a portion of a second stamp against the substrate.
28. **(Original)** The method of claim 27, further comprising, before the placing step of claim 27, disposing the substrate in a specific position with respect to the second stamp.
29. **(Original)** The method of claim 28, wherein the step of disposing comprises positioning the substrate with a micrometer stage, optically setting a mark on the substrate with respect to the stamp, or aligning a mark on the substrate with a laser.

30. **(Original)** The method of claim 1, wherein the substrate comprises a metallic material, a semiconductor material, a ceramic, or a polymer.
31. **(Original)** The method of claim 30, wherein the substrate comprises a coating comprising a metallic material, a semiconductor material, a ceramic, a glass, or a polymer.
32. **(Original)** The method of claim 1, further comprising disposing a material on the substrate before the step of placing.
33. **(Currently Amended)** The method of claim 1, wherein the stamp comprises a lumen having a portal providing communication between the lumen and an exterior of the stamp, wherein the step of disposing comprises placing the substrate within the lumen.
34. **(Original)** The method of claim 33, wherein walls of the stamp defining the lumen are characterized by flat, curved, or a combination of both.
35. **(Previously Presented)** The method of claim 33, wherein the stamp is tubular.
36. **(Original)** The method of claim 33, wherein the stamp has a diameter of at least 100 micrometers.
37. **(Original)** The method of claim 1, wherein the stamp and the substrate have the same or different shapes.
38. **(Currently Amended)** The method of claim 37, wherein the stamp is adapted and constructed to contact a substrate having a three-dimensional surface selected from open, partially closed, and closed.
- 39-115. **(Canceled)**
116. **(Original)** A method of patterning a surface, comprising:

providing a stamp having a stamping surface;
disposing a substrate proximate to the stamping surface; and
modulating the dimensions of the stamp to place the stamping surface in contact with the substrate to produce a pattern on the stamping surface of the substrate, wherein the stamp comprises a first lumen having a portal providing communication between the first lumen and an exterior of the stamp.

117. **(Previously Presented)** The method of claim 116, wherein the first lumen has two portals each providing communication between the lumen and an exterior of the stamp.
118. **(Previously Presented)** The method of claim 116, wherein walls defining the first lumen are characterized by flat, curved, or a combination of both.
119. **(Previously Presented)** The method of claim 116, wherein the stamp is tubular.
120. **(Previously Presented)** The method of claim 116, wherein the step of disposing comprises placing the substrate within the first lumen.
121. **(Previously Presented)** The method of claim 120, wherein the step of modulating comprises reducing a cross sectional dimension of the first lumen.
122. **(Previously Presented)** The method of claim 121, further comprising increasing a cross sectional dimension of the first lumen before the step of disposing the substrate.
123. **(Previously Presented)** The method of claim 116, wherein the substrate comprises a second lumen having a portal providing communication between the second lumen and an exterior of the stamp and wherein the step of disposing comprises placing the stamp within the second lumen.
124. **(Currently Amended)** The method of claim 123, wherein the step of modulating comprises increasing a cross sectional dimension of the ~~second~~ first lumen.

125. **(Currently Amended)** The method of claim 124, further comprising reducing a cross sectional dimension of the ~~second~~ first lumen before the step of disposing the substrate.
126. **(Previously Presented)** The method of claim 1 or 116, wherein the stamp is cylindrical.
127. **(Previously Presented)** The method of claim 1 or 116, wherein the stamp is spherical.
128. **(Previously Presented)** The method of claim 1 or 116, wherein the stamp is elliptical.
129. **(Previously Presented)** The method of claim 1 or 116, wherein the stamp is polygonal.
130. **(Previously Presented)** The method of claim 1 or 116, wherein the stamp takes the shape of a spheroid having a variety of diameter lengths.
131. **(Cancelled).**
132. **(Previously Presented)** The method of claim 1 or 116, wherein the stamp is balloon-like.